

Amendment to the Specification:

On page 1, please amend the second full paragraph spanning lines 11-20 as follows:

Iterative methods can be used for data reconstruction in different fields of data processing, such as nuclear science and computed tomography. In particular, iterative algorithms are applied for image reconstruction. The reconstruction process consists of alternating projection and backprojection steps. In order to efficiently use dedicated image reconstruction hardware, multiple projections/backprojections have to be carried out simultaneously. In known methods, for example, as described in ~~EP 0 502 187 B1~~ US 5,253,171 or US 6,574,299 B1, such image reconstruction still requires long processing times. In particular, the application of multiple projections/backprojections, which may be carried out simultaneously, may lead to a slow convergence, due to correlations between the simultaneously processed data and, consequently, to a low image quality.

On page 2, please amend the second full paragraph spanning lines 7-14 as follows:

According to an exemplary embodiment ~~of the present invention as set forth in claim 1~~, the above object may be solved by a method of performing an iterative data reconstruction, wherein estimated projection data is determined from estimated data for a plurality of projections. Then, a difference between the estimated projection data and measured data is determined. Then, according to an aspect of the present invention, a filtering of the difference is performed, resulting in a filtered difference. Then, a backprojection is performed by updating the estimated data by using the filtered difference. These steps may be performed iteratively.

On page 2, please amend the fourth full paragraph spanning lines 21-26 as follows:

According to another exemplary embodiment ~~of the present invention as set forth in claim 2~~, the filtering is performed such that a mutual influence or

reciprocal interaction of the plurality of projections is at least partially filtered out. In other words, according to this exemplary embodiment ~~of the present invention~~, the difference is modified such that an influence on a projection caused by other projections is compensated for before backprojection.

On page 3, please amend the first full paragraph spanning lines 4-5 as follows:

According to another exemplary embodiment ~~of the present invention as set forth in claim 3~~, the method is based on the algebraic reconstruction technique (ART).

On page 3, please delete the second full paragraph in its entirety:

~~Claims 5 to 7 provide for further exemplary embodiments of the method according to the present invention.~~

On page 3, please amend the third full paragraph spanning lines 10-14 as follows:

According to another exemplary embodiment ~~of the present invention as set forth in claim 8~~, an image processing device is provided, performing an iterative data reconstruction, for example, similar to the ART, including a filtering before a backprojection, allowing for a reduced processing time, while still allowing for a high reconstruction quality.

On page 3, please amend the fourth full paragraph spanning lines 16-24 as follows:

The present invention also relates to a computer program, for example, for an image processing device, for performing an iterative data reconstruction, including a filtering step. ~~The computer program according to the present invention is defined in claim 9.~~ The computer program according to the present invention is preferably loaded into a working memory of a data processor. The data processor is

thus equipped to carry out the method of the invention. The computer program may be stored on a computer readable medium, such as a CD-ROM. The computer program may also be presented over a network, such as the WorldWideWeb, and may be downloaded into the working memory of the data processor from such a network.

On page 3, please amend the last paragraph beginning on line 26 and continuing to page 4, line 8 as follows:

~~It may be seen as the gist of~~ In an exemplary embodiment, ~~of the present invention that~~ a filtering step is introduced into an iterative data reconstruction, such as ART or simultaneous ART (SART). ART is, for example, described in R. Gordon et al "Algebraic reconstruction techniques (ART) for three-dimensional electron microscopy and x-ray photography" J. Theor Biol. Vol. 29, pages 471 to 481, 1970, which is hereby incorporated by reference. SART is, for example, described in R.H. Andersen et al, "Simultaneous algebraic reconstruction technique (SART)" Ultrasonic imaging, Vol. 6, pages 81 to 94, 1994, which is hereby incorporated by reference. The filtering performed according to the present invention allows to filter out influences caused by other projections onto the current projection, which allows to improve the quality of the data reconstruction, i.e. in case images are reconstructed, it allows for an improved image quality. Furthermore, according to the present invention, several projections/backprojections may be performed simultaneously, allowing for a high processing speed.

On page 9, after the last paragraph ending on line 20, please add the following new paragraph:

The invention has been described with reference to the preferred embodiments. Modifications and alterations may occur to others upon reading and understanding the preceding detailed description. It is intended that the invention be construed as including all such modifications and alterations insofar as they come within the scope of the appended claims or the equivalents thereof.